
CHAPTER 1

COMPONENTS AND FUNCTIONING

This chapter describes the M9 and M11 semiautomatic pistols, their maintenance requirements, and their operation and functioning.

Section I. DESCRIPTION AND COMPONENTS

The M9 (Figure 1-1) and M11 (Figure 1-2) pistols are 9-mm, semiautomatic, magazine-fed, recoil-operation, double-action weapons chambered for the 9-mm cartridge.



Figure 1-1. 9-mm pistol, M9.



Figure 1-2. 9-mm pistol, M11.

1-1. DESCRIPTION

Table 1-1 summarizes equipment data for both pistols.

	M9 PISTOL	M11 PISTOL
Caliber	9-mm NATO	9-mm NATO
System of Operation	Short recoil, semiautomatic	Short recoil, semiautomatic
Locking System	Oscillating block	Oscillating block
Length	217 mm (8.54 inches)	180 mm (7.08 inches)
Width	38 mm (1.5 inches)	37 mm (1.46 inches)
Height	140 mm (5.51 inches)	136 mm (5.35 inches)
Magazine Capacity	15 Rounds	13 Rounds
Weight with Empty Magazine	960 grams (2.1 pounds)	745 grams (26.1 oz.)
Weight with 15-Round Magazine	1,145 grams (2.6 pounds)	830 grams (29.1 oz.)
Barrel Length	125 mm (4.92 inches)	98 mm (3.86 inches)
Rifling	Right-hand, six-groove (pitch 250 mm [about 10 inches])	Right-hand, six-groove (pitch 250 mm [9.84 inches])
Muzzle Velocity	375 meters per second (1,230.3 feet per second)	375 meters per second (1,230.3 feet per second)
Muzzle Energy	569.5 Newton meters (430 foot pounds)	569.5 Newton meters (430 foot pounds)
Maximum Range	1,800 meters (1,962.2 yards)	1,800 meters (1,962.2 yards)
Maximum Effective Range	50 meters (54.7 yards)	50 meters (54.7 yards)
Front Sight	Blade, integral with slide	Blade, integral with slide
Rear Sight	Notched bar, dovetailed to slide	Notched bar, dovetailed to slide
Sighting Radius	158 mm (6.22 inches)	158 mm (6.22 inches)
Safety Features	Decocking/safety lever, firing pin block.	Decocking/safety lever, firing pin block.
Hammer (half-cocked notch)	Prevents accidental discharge.	Prevents accidental discharge.
Basic Load	45 rounds	45 rounds
Trigger Pull	Single-action: 5.50 pounds Double-action: 12.33 pounds	Single-Action: 4.40 pounds Double-Action: 12.12 pounds

Table 1-1. Equipment Data, M9 and M11 pistols.

NOTE: For additional information on technical aspects of the M9 pistol, see TM 9-1005-317-10. For additional information on technical aspects of the M11 pistol, see TM 9-1005-325-10.

WARNING

The half-cocked position catches the hammer and prevents it from firing if the hammer is released while manually cocking the weapon. It is not to be used as a safety position. The pistol will fire from the half-cocked position if the trigger is pulled.

1-2. COMPONENTS

The major components of the M9 (Figure 1-3) and M11 (Figure 1-4) pistols are:

- a. **Slide and Barrel Assembly:** Houses the firing pin, striker, and extractor. Cocks the hammer during recoil cycle.
- b. **Recoil Spring and Recoil Spring Guide:** Absorbs recoil and returns the slide assembly to its forward position.
- c. **Barrel and Locking Block Assembly:** Houses cartridge for firing, directs projectile, and locks barrel in position during firing.
- d. **Receiver:** Serves as a support for all the major components. Houses action of the pistol through four major components. Controls functioning of the pistol.
- e. **Magazine:** Holds cartridges in place for stripping and chambering.



Figure 1-3. Major components, M9.



Figure 1-4. Major components, M11.

1-3. AMMUNITION

M9 and M11 pistols use several different types of 9-mm ammunition. Soldiers should use only authorized ammunition that is manufactured to US and NATO specifications.

a. **Type and Characteristics.** The specific type ammunition (Figure 1-5) and its characteristics are as follows:

- (1) Cartridge, 9-mm ball, M882 with/without cannelure).
- (2) Cartridge, 9-mm dummy, M917.

WARNING

Do not fire heavily corroded or dented cartridges, cartridges with loose bullets, or any other rounds detected as defective through visual inspection.

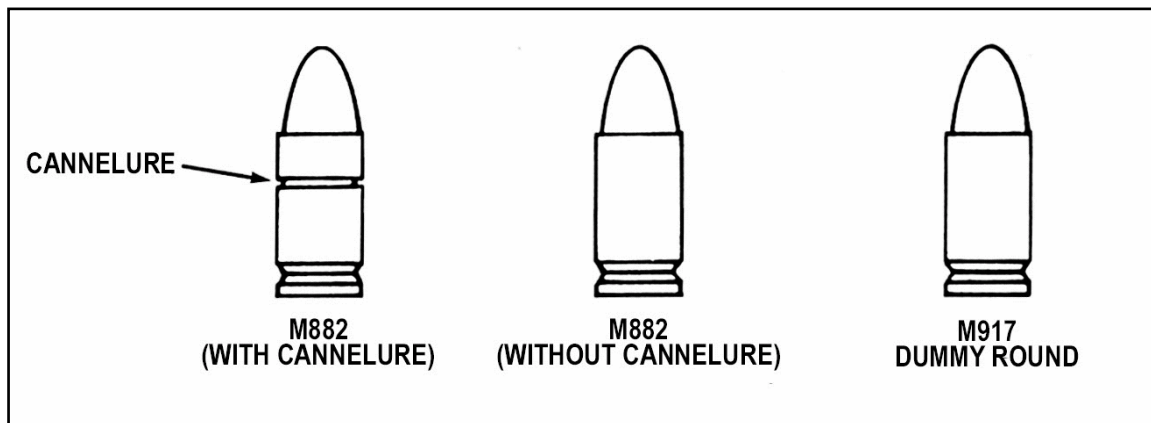


Figure 1-5. Ammunition.

b. Care, Handling, and Preservation.

(1) Protect ammunition from mud, sand, and water. If the ammunition gets wet or dirty, wipe it off at once with a clean dry cloth. Wipe off light corrosion as soon as it is discovered. Turn in heavily corroded cartridges.

(2) Do not expose ammunition to the direct rays of the sun. If the powder is hot, excessive pressure may develop when the pistol is fired.

(3) Do not oil or grease ammunition. Dust and other abrasives that collect on greasy ammunition may cause damage to the operating parts of the pistol. Oiled cartridges produce excessive chamber pressure.

Section II. MAINTENANCE

Maintenance procedures include clearing, disassembling, inspecting, cleaning, lubricating, assembling, and checking the functioning of the M9 or M11 pistol.

1-4. CLEARING PROCEDURES

The first step in maintenance is to clear the weapon. This applies in all situations, not just after firing. Soldiers must always assume the weapon is loaded. To clear the pistol, perform the following procedures.

- a. Place the decocking/safety lever in the SAFE down position.
- b. Hold the pistol in the raised pistol position.
- c. Depress the magazine release button and remove the magazine from the pistol.
- d. Pull the slide to the rear and remove any chambered round.
- e. Push the slide stop up, locking the slide to the rear.
- f. Look into the chamber to ensure that it is empty.

1-5. GENERAL DISASSEMBLE

To disassemble the pistol, perform the following procedures.

- a. Depress the slide stop and let the slide go forward.
- b. Hold the pistol in the right hand with the muzzle slightly raised.
- c. Press the disassembly lever button with the forefinger.
- d. Rotate the disassembly lever downward until it stops.
- e. Pull the slide and barrel assembly forward and remove it from the receiver.

- f. Carefully and lightly compress the recoil spring and spring guide. At the same time, lift up and remove them.
- g. Separate the recoil spring from the spring guide.
- h. Push in on the locking block plunger while pushing the barrel forward slightly.
- i. Lift and remove the locking block and barrel assembly from the slide.

1-6. INSPECTION

Inspection begins with the pistol disassembled in its major components. Shiny surfaces do not mean the parts are unserviceable. Inspect all surfaces for visible damage, cracks, burrs, and chips.

1-7. CLEANING, LUBRICATION, AND PREVENTIVE MAINTENANCE

The M9 or M11 pistol should be disassembled into its major components and cleaned immediately after firing. All metal components and surfaces that have been exposed to powder fouling should be cleaned using CLP on a bore-cleaning patch. The same procedure is used to clean the receiver. After it has been cleaned and wiped dry, a thin coat of CLP is applied by rubbing with a cloth. This lubricates and preserves the exposed metal parts during all normal temperature ranges. When not in use, the pistol should be inspected weekly and cleaned and lubricated when necessary.

CAUTION

When using CLP, do not use any other type cleaner. Never mix CLP with RBC or LSA.

- a. Clear and disassemble the weapon.
- b. Wipe or brush dirt, dust, and carbon buildup from the disassembled pistol.
- c. Use CLP to help remove carbon buildup and stubborn dirt and grime.
- d. Pay particular attention to the bolt face, guide rails on the receiver, grooves on the slide, and other hard-to-reach areas.

NOTE: Do not use mineral spirits, paint thinner, or dry cleaning solvent to clean the pistol. Use only issued lubricants and cleaners, such as CLP or LSA.

- e. Clean the bore and chamber using CLP and fresh swabs.
- f. Lubricate the pistol by covering all surfaces including the bore and chamber with a light coat of CLP. In extremely hot or cold weather, refer to the technical manual for lubricating procedures and materials.

1-8. GENERAL ASSEMBLY

To assemble the M9 or M11 pistol, simply reverse the procedures used to disassemble the pistol.

- a. Grasp the slide with the bottom facing up.
- b. With the other hand, grasp the barrel assembly with the locking block facing up.

c. Insert the muzzle into the forward end of the slide and, at the same time, lower the rear of the barrel assembly by aligning the extractor cutout with the extractor.

NOTE: The locking block will fall into the locked position in the slide.

d. Insert the recoil spring onto the recoil spring guide.

CAUTION

Maintain spring tension until the spring guide is fully seated in the cutaway on the locking block.

e. Insert the end of the recoil spring and the recoil spring guide into the recoil spring housing. At the same time, compress the recoil spring guide until it is fully seated on the locking block cutaway.

CAUTION

Do not pull the trigger while placing the slide on the receiver.

f. Ensure that the hammer is unlocked, the firing pin block is in the DOWN position, and the decocking/safety lever is in the SAFE position.

g. Grasp the slide and barrel assembly with the sights UP, and align the slide on the receiver assembly guide rails.

h. Push until the rear of the slide is a short distance beyond the rear of the receiver assembly and hold. At the same time, rotate the disassembly latch lever upward. A click indicates a positive lock.

1-9. FUNCTION CHECK

Always perform a function check after the pistol is reassembled to ensure it is working properly. To perform a function check:

- a. Clear the pistol in accordance with the unloading procedures.
- b. Depress the slide stop, letting the slide go forward.
- c. Insert an empty magazine into the pistol.
- d. Retract the slide fully and release it. The slide should lock to the rear.
- e. Depress the magazine release button and remove the magazine.
- f. Ensure the decocking/safety lever is in the SAFE position.
- g. Depress the slide stop. When the slide goes forward, the hammer should fall to the forward position.
- h. Squeeze and release the trigger. The firing pin block should move up and down and the hammer should not move.
- i. Place the decocking/safety lever in the fire POSITION.
- j. Squeeze the trigger to check double action. The hammer should cock and fall.
- k. Squeeze the trigger again. Hold it to the rear. Manually retract and release the slide. Release the trigger. A click should be heard and the hammer should not fall.
- l. Squeeze the trigger to check the single action. The hammer should fall.

Section III. OPERATION AND FUNCTION

This section provides detailed information on the functioning of M9 and M11 pistols.

1-10. OPERATION

With the weapon loaded and the hammer cocked, the shot is discharged by pulling the trigger.

a. Trigger movement is transmitted by the trigger bar, which draws the sear out of register with the full-cock hammer notch via the safety lever. With a slight timing lag, the safety lever also cams the safety lock upward to free the firing pin immediately before the hammer drops. The hammer forces the firing pin forward to strike and detonate the cartridge primer.

b. Blowback reaction generated by the exploding charge thrusts the locked barrel/slide system rearward against the recoil spring. After recoiling about 3 mm (1/8"), the barrel and slide unlock, allowing the barrel to tilt down into the locked position. The slide continues rearward until it abuts against the receiver stop.

c. During slide recoil, the hammer is cocked; the spent case is extracted and ejected as it strikes the ejector. In the initial recoil phase, the safety lever and safety lock separate, automatically rendering the firing pin safety lock effective again. As recoil continues, the slide depresses the trigger bar, disconnecting it from the safety lever. Sear spring pressure returns the sear and safety lever to their initial positions.

d. After contacting the receiver stop, the slide is thrust forward by the compressed recoil spring, stripping a round from the magazine and chambering it on the way. Just before reaching the forward end position, the slide again locks up with the barrel. The complete system is then thrust fully into the forward battery position by recoil spring pressure. Releasing the trigger allows the trigger bar and safety lever to re-engage.

e. The weapon is now cocked and ready to fire. After firing the last shot, the slide is locked in the rearmost position by the slide catch lever. This catch is actuated positively by the magazine follower, which is raised by magazine spring pressure.

1-11. LOADING

To load the pistol--

- Hold the pistol in the raised pistol position.
- Insert the magazine into the pistol.
- Pull the slide to the rear and release the slide to chamber a round.
- Push the decocking/safety lever to the SAFE position.

a. Always make sure the muzzle is pointing in a safe direction, with the finger off the trigger.

b. Never attempt to load or unload any firearm inside a vehicle, building, or other confined space (except a properly constructed shooting range or bullet trap). Enclosed areas frequently offer no completely safe direction in which to point the firearm; if an accidental discharge occurs, there is great risk of injury or property damage.

c. Before loading, always clean excess grease and oil from the bore and chamber, and ensure that no obstruction is in the barrel. Any foreign matter in the barrel could result in a bulged or burst barrel or other damage to the firearm and could cause serious injury to the shooter or to others.

1-12. UNLOADING AND CLEARING

To unload and clear the pistol--

- Hold the pistol in the raised pistol position.
- Depress the magazine release button and remove the magazine.
- Pull the slide to the rear and lock it in its rearward position by pushing up on the slide stop.
- Point the pistol skyward and look into the chamber to ensure it is clear.
- Let the slide go forward and pull the trigger to release the spring tension.
 - a. Perform this task in an area designated for this process.
 - b. Keep your finger off the trigger, and always make sure the muzzle is pointed in a safe direction.
 - c. Remember to clear the chamber after removing the magazine.
 - d. Never assume that a pistol is unloaded until you have personally checked it both visually and physically.
 - e. After every shooting practice, make a final check to be certain the firearm is unloaded before leaving the range.

1-13. CYCLE OF OPERATION

Each time a cartridge is fired, the parts inside the weapon function in a given order. This is known as the functioning cycle or cycle of operation. The cycle of operation of the weapon is divided into eight steps: feeding, chambering, locking, firing, unlocking, extracting, ejecting, and cocking. The steps are listed in the order in which functioning occurs; however, more than one step may occur at the same time.

a. A magazine containing ammunition is placed in the receiver. The slide is pulled fully to the rear and released. As the slide moves forward, it strips the top round from the magazine and pushes it into the chamber. The hammer remains in the cocked position, and the weapon is ready to fire.

b. The weapon fires one round each time the trigger is pulled. Each time a cartridge is fired, the slide and barrel recoil or move a short distance locked together. This permits the bullet and expanding powder gases to escape from the muzzle before the unlocking is completed.

c. The barrel then unlocks from the slide and continues to the rear, extracting the cartridge case from the chamber and ejecting it from the weapon. During this rearward movement, the magazine feeds another cartridge, the recoil spring is compressed, and the hammer is cocked.

d. At the end of the rearward movement, the recoil spring expands, forcing the slide forward, locking the barrel and slide together. The weapon is ready to fire again. The same cycle of operation continues until the ammunition is expended.

e. As the last round is fired, the magazine spring exerts upward pressure on the magazine follower. The stop on the follower strikes the slide stop, forcing it into the recess on the bottom of the slide and locking the slide to the rear. This action indicates that the magazine is empty and aids in faster reloading.

Section IV. PERFORMANCE PROBLEMS

Possible performance problems of M9 and M11 pistols are sluggish operation and stoppages. This section discusses immediate and remedial action to correct such problems.

1-14. MALFUNCTIONS

The following malfunctions may occur to the M9 and M11 pistols. Take these corrective actions to correct any problems that may occur.

a. **Sluggish Operation.** Sluggish operation is usually due to excessive friction caused by carbon build up, lack of lubrication, or burred parts. Corrective action includes cleaning, lubricating, inspecting, and replacing parts as necessary.

b. **Stoppages.** A stoppage is an interruption in the cycle of operation caused by faulty action of the pistol or faulty ammunition. Types of stoppages are:

- Failure to feed.
- Failure to chamber.
- Failure to lock.
- Failure to fire.
- Failure to unlock.
- Failure to extract.
- Failure to eject.
- Failure to cock.

1-15. IMMEDIATE ACTION

Immediate action is the action taken to reduce a stoppage without looking for the cause. Immediate action is taken within 15 seconds of a stoppage.

- a. Ensure the decocking/safety lever is in the FIRE position.
- b. Squeeze the trigger again.
- c. If the pistol does not fire, ensure that the magazine is fully seated, retract the slide to the rear, and release.
- d. Squeeze the trigger.
- e. If the pistol again does not fire, remove the magazine and retract the slide to eject the chambered cartridge. Insert a new magazine, retract the slide, and release to chamber another cartridge.
- f. Squeeze the trigger.
- g. If the pistol still does not fire, perform remedial action.

1-16. REMEDIAL ACTION

Remedial action is the action taken to reduce a stoppage by looking for the cause.

- a. Clear the pistol.
- b. Inspect the pistol for the cause of the stoppage.
- c. Correct the cause of the stoppage, load the pistol, and fire.
- d. If the pistol again fails to fire, disassemble it for closer inspection, cleaning, and lubrication.